

NOTES ON THE FLORA OF TEXAS WITH ADDITIONS AND OTHER SIGNIFICANT RECORDS. III

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ABSTRACT

The following taxa are documented as new to Texas: *Cosmos bipinnatus*, *Sphagneticola triloba*, *Lepidium campestre*, *Lechea minor*, *Zephyranthes grandiflora*, *Pavonia hastata*, *Orobanche minor*, and *Valerianella locusta*, which is also reported new to Arkansas. Significant new collection records are provided for *Alternanthera sessilis*, *Ambrosia bidentata*, *Croptilon rigidifolium*, *Eupatorium semiserratum*, *Hymenoxys texana*, *Lactuca graminifolia*, *Verbesina helianthoides*, *Paspalum wrightii*, *Pseudognaphalium luteoalbum*, *Myagrurn perfoliatum*, *Cleomella angustifolia*, *Cyperus aggregatus*, *Cyperus eragrostis*, *Rhynchospora debilis*, *Scleria verticillata*, *Dalea purpurea*, *Lackeya multiflora*, *Securigera varia*, *Hamamelis vernalis*, *Hedeoma acinoides*, *Hyptis mutabilis*, *Lythrum lineare*, *Abutilion hulseanum*, *Calylophus berlandieri* subsp. *pinifolius*, *Orobanche ludoviciana*, *Plantago rugelii*, *Rottboellia cochinchinensis*, *Willkommia texana*, *Phlox cuspidata*, *Ranunculus trilobus*, *Mitracarpus hirtus*, *Oldenlandia corymbosa*, and *Penstemon digitalis*. The status of the name *Wissadula hernandioides* for a Texas mallow is also discussed. Taxa are listed alphabetically with comments, annotations, and citation of voucher specimens.

RESUMEN

Los siguientes taxa se documentan como nuevos para Texas: *Cosmos bipinnatus*, *Sphagneticola triloba*, *Lepidium campestre*, *Lechea minor*, *Zephyranthes grandiflora*, *Pavonia hastata*, *Orobanche minor*, y *Valerianella locusta*, que también se cita como nueva para Arkansas. Se aportan citas de nuevas colecciones de *Alternanthera sessilis*, *Ambrosia bidentata*, *Croptilon rigidifolium*, *Eupatorium semiserratum*, *Hymenoxys texana*, *Lactuca graminifolia*, *Verbesina helianthoides*, *Paspalum wrightii*, *Pseudognaphalium luteoalbum*, *Myagrurn perfoliatum*, *Cleomella angustifolia*, *Cyperus aggregatus*, *Cyperus eragrostis*, *Rhynchospora debilis*, *Scleria verticillata*, *Dalea purpurea*, *Lackeya multiflora*, *Securigera varia*, *Hamamelis vernalis*, *Hedeoma acinoides*, *Hyptis mutabilis*, *Lythrum lineare*, *Abutilion hulseanum*, *Calylophus berlandieri* subsp. *pinifolius*, *Orobanche ludoviciana*, *Plantago rugelii*, *Rottboellia cochinchinensis*, *Willkommia texana*, *Phlox cuspidata*, *Ranunculus trilobus*, *Mitracarpus hirtus*, *Oldenlandia corymbosa*, y *Penstemon digitalis*. El estatus del nombre *Wissadula hernandioides* de una malva de Texas se discute también. Los taxa se listan alfabéticamente con comentarios, anotaciones, y citas de pliegos testigo.

INTRODUCTION

Floristic work in the Houston, Harris Co. area and other east Texas counties, coupled with plants sent to the SBSC herbarium for identification or deposit, has revealed some plants new to Texas, including one new to Texas and Arkansas, as well as significant new records for others in Texas. Herbarium acronyms are those present in Holmgren et al. (1990). Unless otherwise indicated, all cited collections are in the Spring Branch Science Center Herbarium (SBSC), Houston, Texas.

AMARANTHACEAE

Alternanthera sessilis (L.) R. Br. ex DC.—Brown and Marcus (1998) reported this weed from Liberty County. It was mapped only in this county by Turner et al. (2003). The following is a recent collection from Brazoria County.

Voucher: **Brazoria Co.:** San Bernard NWR, Dance Bayou Tract, E of FM 524 just S of its intersection with CO RD 743 at UTM 15 229605E 3224571N, infrequent herbs along edges of Dance Bayou, SE of pipeline crossing, 15 May 2002, D.J. Rosen 2106 and S.D. Jones.

ASTERACEAE

Ambrosia bidentata Michx.—Turner et al. (2003) mapped most collections in the northern tier of counties south of the Red River, but they also mapped a collection from a disjunct population in Sabine County. Our Newton County collection adds another county record for this isolated population in far East Texas.

Voucher: **Newton Co.:** frequent weed along Hwy 63 between Burkeville and Sabine River, 20 Aug 1988, *Brown 13014 with Lynn Lowrey*.

Cosmos bipinnatus Cav.—Turner et al. (2003) did not map this species in Texas. However, Kiger (2006) mapped it in the state. We provide two Texas records. Plants of this species rarely persist for more than one growing season but are often re-seeded for roadside beautification.

Vouchers: **Harris Co.:** planted on bare soil along the new Beltway 8 bridge over Lockwood Drive W of Lake Houston, 29 Apr 1990, *Brown 14315*. **Polk Co.:** roadside on W side of Hwy 146 at intersection with FM 943, 23 Jun 2005, *E. Keith 848*.

Croptilon rigidifolium (E.B. Smith) E.B. Smith—In Turner et al. (2003) the eastern distribution margin for this scratch daisy extends from Leon County south to Wharton County. The range of this species extends farther east as attested to by collections from Harris, Liberty, and Hardin counties

Vouchers: **Hardin Co.:** Turkey Creek Unit of the Big Thicket Biological Preserve, sandy soil SE of the Turkey Creek/Village Creek intersection and N of Hwy 420, UTM zone 15, 369765E, 3370580N (NAD 27), 28 Jun 2006, *Desco TC vegetation survey crew s.n.* **Harris Co.:** sandy soil at the corner of Lutheran School Road and Fred J. Petrich Road in NW Harris Co., W of Tomball, 6 Oct 1984, *C.D. Peterson 717*. **Liberty Co.:** at edge of the Trinity River NWR near entrance to refuge at the bus turnaround which is E of C.R. 2188 and N of C.R. 2252, 13 Oct 1996, *Brown 19734*.

Eupatorium semiserratum DC—Turner et al. (2003), Siripum and Schilling (2006), and Jones et al. (1997) did not report this species in Texas; however, Kartesz (1999), Cronquist (1980), and Gleason and Cronquist (1991) did. Correll and Johnston (1970) listed the species as a synonym of *E. glaucescens*. Siripum and Schilling (2006) considered *E. glaucescens* a separate species under the name *E. linearifolium* Walter. There are a total of 25 specimens at SBSC and the following selection support its presence in the state.

Vouchers: **Harris Co.:** growing on sandy soil along Grant Rd, ca 0.3 mi E of intersection with Kitzman Road N of Cypress, 28 Oct 1984, *Brown 8340*; frequent in moist soil in a depression under a pine-oak forrest in Eisenhower Park S of the Lake Houston dam, 28 Sep, *Brown 8090*. **Liberty Co.:** Damuth Sanctuary between Hwy 1010 and Tarkington S of Cleveland, along power line right of way, 30°18'03"N; 95°02'48"W, 6 Aug 2001, *Brown 26087*; Menard Creek Unit of the Big Thicket Biological Preserve, in a pine-oak forest along Hwy 2142 E of Hwy 146, between Rye and Hwy 146 bridge over Menard Creek, 30°28'05"N; 94°45'33"W, 14 Sep 2003, *Brown 28800*. **Chambers Co.:** White Memorial Park, S of Interstate 10 and N of the village of Anahuac, 29°50'17"N; 95°38'57"W, 16 Aug 2000, *Brown 24649*. **Hardin Co.:** burned area at edge of forest in pipeline right of way in Village Creek State Park E of Hwy 96 in Lumberton, 29 Aug 2000, *Joe Liggio s.n.* **Austin Co.:** small population on sandy prairie site along service rd of Interstate 10 at the Beckendorff exit, 21 Jul 1987, *Brown 11369*. **Tyler Co.:** Turkey Creek Unit of the Big Thicket Biological Preserve at edge of an acid bog off of C.R., S of Hwy 1943, E of Warren, 8 Oct 1983, *Brown 6678*. **Newton Co.:** in low area along hwy 12 at intersection with Hwy 87, 18 Aug 1985, *Brown 9363*.

Hymenoxys texana (J.M. Coult. & Rose) Cockerell—Correll & Johnston (1970) reported this now federally endangered taxon from near Hockley and Houston in Harris County, based upon Thurow collections from 1889 and 1890. They considered it probably extinct for there were no known collections after 1900. It was not collected again until 1981 when James Kessler discovered some small populations north of the village of Cypress in Harris County (Mahler 1983). Up until about 1992, Prairie Dawn was known only from the northwest portion of Houston and in the area of Harris County northwest of Houston, with one population from the Fort Bend County section of the Barker Reservoir. In 1993, populations were found in the Pineywoods to the west of Lake Houston. In 1999, populations were found on the south side of Houston, centered around S. Post Oak Rd, which is S of Hwy 90a. In 2002, a population was found in a prairie adjacent to the Ellington Field airport off Hwy 3 south of Houston. The most significant and unexpected discovery was made in 2003 when a population was found in Trinity County far north of Harris and Fort Bend counties.

Vouchers: **Fort Bend Co.:** in extreme W edge of Barker Reservoir at end of a gravel road which exits Mason Road at first bridge N of intersection with Hwy 1093, 7 Apr 1989, *Brown 13432*. **Harris Co.:** populations on pimple mounds on W side of Lake Houston and N of Beltway 8 near site of proposed Lake Houston Parkway, 15 Apr 1993, *Brain Rowe s.n.*; along a powerline right of way W of S. Post Oak and S of Lotus Street near 29°37'55"N, 95°28'26"W, 17 Mar 1999, *Brown 22893*; disturbed coastal prairie E of Ellington Field at UTM

15, 292963E, 3278227N, 10 Apr 2002, *D.J. Rosen* 1938. **Trinity Co.:** saline glade in Boggy Slough Hunting Club, ca 2 mi W of Neches River, 31°18'45"N, 95°18'46"W, 23 Apr 2003, *E. Keith* 553.

Lactuca graminifolia L.—Correll & Johnston (1970) reported this lettuce from elevated portions of the Davis and Guadalupe mountains of the Trans-Pecos region of Texas. Turner et al. (2003) mapped it only in Culberson, Jeff Davis, and Presidio counties. Kartesz (1999) mapped it in the southern states from North Carolina westward into Arizona and Colorado. Thomas and Allen (1996) mapped it in five Louisiana parishes, two in the central portions of the state and three in the parishes east of the Mississippi River. We report a population, until now not reported in east Texas, on deep sands from the Pineywoods of Angelina County.

Voucher: **Angelina Co.:** frequent rather tall herb on xeric sands under longleaf pines off of F.R. 313a just N of F.R. 313 in the Boykin Springs area of the Angelina National Forest, 21 Aug 1995, *Brown* 18122.

Pseudognaphalium luteoalbum (L.) Hillard & Burt—Nesom (2001) first reported this Eurasian species in Texas from El Paso, Kimble, and Parker counties. Turner et al. (2003) mapped it mostly in the Trans-Pecos and Edwards Plateau regions of Texas. We report a collection from Liberty County far east of those mapped, and for now, it is the only record east of the Edwards Plateau. Guy Nesom identified our specimen.

Voucher: **Liberty Co.:** on disturbed soil behind the Tarkington High School in the village of Tarkington which is off of Hwy 321 southeast of Cleveland, 30°18'57"N, 94°57'33"W, 12 Mar 2006, *Brown* 31062 (SBSC, BRIT).

Sphagneticola trilobata (L.) Pruski—Creeping Oxeye is a cultivated species in the southern states and is probably native to tropical America. (Strother 2006). Kartesz (1999) indicated it had escaped in Louisiana and Florida. Strother (loc. cit.) states the Louisiana reports have not been verified. Thomas and Allen (1996) indicated the Louisiana report is the LSU collection, *Urbatsch* 5155, from Baton Rouge Parish. The following collection is the first report of an escaped Texas population.

Voucher: **Cherokee Co.:** spreading up slope into the woods, 5 m N of tee box of 3rd hole at Rusk Golf Course, 25 Jun 2005, *E. Keith* 850.

Verbesina helianthoides Michx.—This species has yellow ray flower, a winged stem, and with most leaves alternate. Turner et al. (2003) mapped it in northeastern Texas from the Red River border counties south to Anderson and Shelby counties. We report specimens from a fairly large population in Liberty County far south of those mapped.

Vouchers: **Liberty Co.:** somewhat frequent on a dry prairie like area along C.R. 2142 which exits E off of Hwy 146 N of Rye, 20 Oct 1996, *Brown* 19765; same site, 7 Oct 1995, *Brown* 18775; plants along C.R. 2141c nears its end on the west side of Menard Creek, 30°27'46"N and 94°45'02"W, *Brown* 24237a; present in mature mesic woods and wet flats along Hwy 146, 4.3 mi N of intersection with Hwy 105 in Moss Bluff, 12 Aug 1985, *J. Ward* s.n.

Plants of this species are somewhat frequent at edges of sandy roadsides centered largely from the Menard Creek westward to Hwy 146.

BRASSIACEAE

Myagrum perfoliatum L.—Rollins (1993) indicated this introduced species to be uncommon and known only from a few localities in the United States and Canada. He also wrote that no recent collections have been seen. Kartesz (1999) mapped it only in Texas, Oklahoma, and the Quebec Province of Canada. Turner et al. (2003) mapped it in Delta and Hill counties. We report collections from two additional counties.

Vouchers: **Walker Co.:** collected along FM 1791 SW of Huntsville, 2 Apr 2001, *E. Keith* s.n.; **Rockwall Co.:** Old Millwood Road, ca 0.5 mi from jct. with Marty Circle, roadside ditch underneath trees and shrubs near creek, loamy clay with heavy leaf litter; with *Geranium*, *Stellaria*, and grasses, 23 Mar 2002, *July Ratteree* 262 (TAMU).

Lepidium campestre (L.) R. Br.—Kartesz (1999) mapped this introduced species in the adjacent states of Louisiana, Arkansas, Oklahoma, and New Mexico. However, none of the collections of it from the nearby states of Louisiana and Arkansas are from counties near Texas. In Arkansas, Smith (1988) mapped it in

the northern counties near the Oklahoma border and in Sevier County, a southwest county, which is the nearest mapped location to Texas. Thomas and Allen (1996) mapped it only from Winn Parish in the north central portion of Louisiana. The following is the first record for Texas, and it is distant from collections in the two adjacent states.

Voucher: **Montgomery Co.:** in parking lot for the Lone Star Hiking Trail off of Bethel Rd, S of Hwy 149, N of Montgomery in the Sam Houston National Forest, 30°30'40"N, 95°45'25"W, 27 Apr 2003, *Brown 27994*.

CLEOMACEAE (Capparaceae)

Cleomella angustifolia Torr.—Kartesz (1999) mapped this taxon in Texas, Oklahoma, Kansas, Nebraska, and Colorado. Turner et al. (2003) mapped it in 11 Texas counties, with six of them in the northwest tier near the Oklahoma border. The five other county records are widely scattered from Dawson County east to Brazoria and Harris counties. Our Anderson County record documents it from the Pineywoods region of eastern Texas which is apparently the most eastern station in the state for this largely western species. The endemic *Hymenoxys texana* is associated with it at its only Harris County station. The Anderson County site should also be examined for the presence of *H. texana*.

Voucher: **Anderson Co.:** open saline prairie, ca 500 m N of Hwy 84 and 400 m W of the Neches River, 28 Jul 2003, *E. Keith 584 & S. Cook*.

CISTACEAE

Lechea minor L.—Kartesz (1999) mapped this species in most of the eastern states from New Hampshire, New York, and Wisconsin south to Florida and west to Louisiana. Thomas and Allen (1996) mapped it in St. Bernard and St. Tammany parishes in eastern Louisiana and in Calcasieu Parish adjacent to Texas. At SBSC there are three different collections of it from a single location south of Starks in Calcasieu Parish, which is just a few miles east of the Texas border. Our specimen is the first for Texas. The following key will serve to separate the five species of *Lechea* now known in east Texas.

1. Stem hairs spreading _____ **L. mucronata**
1. Stem hairs appressed.
 2. Leaves mostly 0.5–1.5 mm wide, 10 or more times longer than wide.
 3. Fruit pedicels 3+ mm long, secund and bending away from stem _____ **L. san-sabeana**
 3. Fruit pedicels less than 3 mm long, not secund, erect _____ **L. tenuifolia**
 2. Leaves mostly 1–4 mm wide, 5 or less times longer than wide.
 4. Pubescence of abaxial leaf surface extending across the surface; at least some leaves opposite and whorled on the same plant _____ **L. minor**
 4. Pubescence of abaxial leaf surface restricted to mid-vein and margin; leaves not both opposite and whorled on the same plant _____ **L. pulchella**

Voucher: **Hardin Co.:** collected at edge of Little Rock Rd in the Lance Rosier Unit of the Big Thicket Biological Preserve, west of Hwy 326 and S of Kountze, 30°18'31"N, 94°22'03"W, 13 Aug 2004, *Brown 30003* with *Shawn Harper*.

CYPERACEAE

Cyperus aggregatus (Willd.) Endl.—Diggs et al. (2006) reported this taxon from Newton County based upon the voucher below. Turner et al. (2003) did not include this species in Texas under this name nor under any of the synonyms found in Kartesz (1999). This collection is apparently the first in east Texas for Correll and Johnston (1970) listed it, as *C. huarmensis* (H.B.K.) M.C. Johnst., only for Aransas and San Patricio counties. Diggs et al. (2006) reported additional records from Bee and Refugio counties.

Voucher: **Newton Co.:** sandy soil of roadside on N side of Hwy 255, ca. 0.25 mi W of intersection with Hwy 87, 24 Sep 2003, *E. Keith 603*.

Cyperus eragrostis Lam.—Turner et al. (2003) mapped this sedge only in Harris County. We provide records for Brazoria, Galveston, and Houston counties. All vouchers are at SBSC with a duplicate of the Houston County specimen at TEX and a duplicate of the Galveston County collection at VSC.

Vouchers: **Brazoria Co.:** in a drainage ditch along C.R. 176c, SW of Alvin, Jun 2005, *L. James s.n.* **Galveston Co.:** S of Hwy 96, 0.5 mi W of its intersection with Hwy 146 in League City, 10 May 2002, *D.J. Rosen 2068*. **Houston Co.:** roadside W of FM 230, ca 0.5 mi N of the town of Weldon and 3.5 mi S of the intersection with FM 2915, 23 Jun 2005, *D.J. Rosen 3433*.

Rhynchospora debilis Gale—Turner et al. (2003) mapped this species in Hardin and Chambers counties. Diggs et al. (2006) included it for Hardin County based upon the above publication. The Hardin County voucher, *MacRoberts & MacRoberts* 3851, was collected in the Lance Rosier Unit of the Big Thicket Biological Preserve. The first author borrowed the TEX voucher in order to examine it for a checklist of the vascular plants of this unit (Brown et al. 2006). The voucher is actually *R. filifolia* A. Gray. However, a 2007 collection of it in Tyler County, from the Beech Creek Unit of the Big Thicket Biological Preserve, has now been made. Thus it is now known from Chambers and Tyler counties.

Vouchers: **Chambers Co.:** small delicate plants on moist sand above the water of East Bay and below the Abshire-Blackstone house in the Candy Abshire Wildlife Management area on Smith Point south of Anahuac, 7 May 1993, *Brown* 16932; same site, 27 May 1996, *Brown* 19138 with *J. Ligio*. **Tyler Co.:** collected along the Beechwoods Trail, off of the picnic area on E side of Hwy 2992, SE of Woodville, near 30°43'10"N, 94°13'38"W, 19 May 2007, *Brown* 32131 with *Shawn Harper* (TAES).

Scleria verticillata Muhl. ex Willd.—Turner et al. (2003) mapped this nut-rush in six counties in the Edwards Plateau as well as Dallas and Limestone counties in north central Texas. Diggs et al (2006) reported it also in Polk, Wise, and Liberty counties. We report vouchers from coastal populations in Chambers and Galveston counties.

Vouchers: **Chambers Co.:** on sandy soil along Hwy 562 ca 2 mi W of intersection with Hwy 1985 S of the village of Anahuac, 29°39'38"N, 94°37'38"W, 3 Aug 2000, *Brown* 24562. **Galveston Co.:** remnant wet prairie, S of Hwy 96, 5 mi W of its intersection with Hwy. 146 in League City. UTM 15, 720852E, 3354329N, 10 Sep 2006, *D.J. Rosen* 3914 with *R. Carter* (SBSC, TEX).

FABACEAE

Dalea purpurea Vent.—Turner et al. (2003) did not map this species in the Pineywoods of East Texas. We have records from Tyler and Newton counties. The nearest mapped locations to the east Texas counties are from the Louisiana parishes Calcasieu and Vernon, which border Texas (Thomas & Allen 1998). *D. purpurea* is similar to the two varieties of *D. compacta* Sprengel. Both species occur on alkaline outcrops but are distinguished by the larger flower spikes of *D. compacta* combined with the calyx trichomes in lines that are separated by bald areas whereas in *D. purpurea* the flower spikes are smaller and the trichomes cover the entire calyx tube surface.

Voucher: **Tyler Co.:** collected on an alkaline barrens area off of Hwy R255 W of the Neches River and E of intersection with Hwy. 69, 30°59'03"N, 94°17'12"W, 8 Jun 2003, *Brown* 28282. **Newton Co.:** calcareous prairie on S side of Hwy 60 at eastern city limit sign of Burkeville, 2 Jul 2001, *Eric Keith* s.n. (BRIT).

Lackeya multiflora (Torr. & A. Gray) Fortunata, L.P. Queiroz & G.P. Lewis—One synonym for this species is *Dioclea multiflora* (Torr. & A. Gray) Fortunata, L.P. Queiroz & G.P. Lewis. Other synonyms are available on the International Plant Name Index web site (<http://www.ipni.org/index.html>). Turner et al (2003) mapped this vine in 10 counties, all except one in the Pineywoods of east Texas. Our new record is from Jefferson County in the Beaumont Unit of the Big Thicket Biological Preserve. The Liberty County record should be eliminated because the first author has annotated *Brown* 17822, the voucher at TEX and SBSC for this record, to *Phaseolus polystachios* (L.) Britton, Sterns, & Poggenb based upon the uncinat trichomes on the abaxial leaflet surface of this sterile specimen. Only non-uncinat trichomes are on the abaxial leaflet surface of *L. multiflora*.

Voucher: **Jefferson Co.:** collected in a pine/hardwood forest along Pine Island Bayou, 23 Apr 2006, *Ray Jordan* s.n (TAES).

Phaseolus polystachios (L.) Britton, Stern, & Poggenb.—Turner et al. (2003) mapped this vine in Harrison and Nacogdoches counties. Our new records are for Liberty and Newton counties.

Vouchers: **Liberty Co.:** Davis Hill salt dome in the Davis Hill State Natural Area N of Hwy 105 and E of Cleveland, Davis Hill 7.5 Quad, vine under pines in a deep ravine, 6 May 1994, *Brown* 17822, (TEX, SBSC). **Newton Co.:** on sandy soil on hilly land cleared of trees. S of Hwy R255 and just E of the Jasper Co. line, 5 Oct 2003, *Brown* 28877; open sandy disturbed area along powerline, twining on vegetation, ca 600 m W of Weeks Chapel Rd and 200 m S of R255, 24 Sep 2003, *Keith* 605 with *J. Robinson*.

Securigera varia (L.) Lassen (*Coronilla varia* L.)—Crown vetch is planted for erosion control on newly con-

structed road banks. It persists on roadsides, especially in the northern states. Turner et al. (2003) mapped it in five widely scattered counties, with Walker County the only east Texas county mapped. Our voucher adds Cherokee County to its East Texas distribution.

Voucher: **Cherokee Co.:** in open woods in red clay soil near tee box of 6th hole at Rusk Golf Course, 25 Jun 2005, *E. Keith* 849.

HAMAMELIDACEAE

Hamamelis vernalis Sargent—Neither Meyer (1997) nor Jones et al. (1997) reported this shrub in Texas. Correll and Johnston (1970) reported it in east Texas. Kartesz (1990) mapped it in Texas, Oklahoma, Arkansas, and Missouri. Turner et al. (2003) mapped it in Hardin, Tyler, Jasper, and Newton counties in extreme east Texas. The following Newton County vouchers at SBSC support its presence in Texas.

Vouchers: **Newton Co.:** along Hwy 87 ca 6 mi N of Burkeville, ca 2 mi S of Hwy 255, 11 Dec 1993, *Lynn Lowrey s.n.*; ca 5 mi NW of Wiergate, N of Indian Hill Community, within 200 yards of Cow Creek and within 300 yards of Texas *Stewartia* site, 12 Feb 1989, *Lynn Lowrey, W. Flaming, Osa Hall, and Peter Loos s.n.*; along Hwy 87, 7 mi N of Burkeville, 24 Mar 1991, *Lynn Lowrey s.n.*; near vicinity of village of Newton, 17 Mar 2001, *Brown 25022*; 6 mi W of Burkeville on Hwy 87, 15 Jan 1994, *Lynn Lowrey and Scooter Cheatham s.n.*

All of the above specimens were in anthesis, except for Lynn Lowrey 11 Dec 1993, which was in bud. The red flowers were much smaller than the yellow flowers of *H. virginiana*. The specimen data indicates the anthesis period in Texas extends from February into March.

LAMIACEAE

Hedeoma acinoides Scheele—This mint is present only in Texas and Mexico (Correll & Johnston 1970). Turner et al. (2003) mapped it largely in the Edwards Plateau region with counties extending north and south from the eastern portion of the Plateau. We report a collection of it from the Pineywoods in San Jacinto County, far east of those mapped.

Voucher: **San Jacinto Co.:** weedy plant along grassy verge of Hwy 2025 at entrance road to the Double Lake Recreation area of the Sam Houston National Forest, S of Coldsprings, 29 Apr 1995, *Brown 18566*.

Hyptis mutabilis Briq.—Brown and Elsik (2002) reported this introduced weed from Liberty County new to Texas. Our recent collection is from another east Texas county.

Voucher: **Hardin Co.:** collected along Gore Store Road in the Turkey Creek Unit of the Big Thicket Biological Preserve, 2005, *P. Rolling s.n.*

LILIACEAE

Zephyranthes grandiflora Lindl.—These are the first Texas collections of escaped individuals of this cultivated species that Wunderlin (1998) reported native to Mexico and the West Indies.

Vouchers: **Hardin Co.:** near drainage pipe on the E side of Hwy 69, 5.5 mi S of Kountze and 300 ft S of Hardin Co. Fire Station #3, 8 Jul 2005, *E. Keith* 853. **Harris Co.:** along an old drainage ditch in Jesse Jones County Park, N of Hwy 1960 and W of Humble, in bottomland of Spring Creek, Aug 2005 *P. Rolling s.n.*

LYTHRACEAE

Lythrum lineare L.—Brown and Elsik (2002) reported this species new to Texas from two stations in Chambers County. Recently a large population was discovered in Harris County. The Harris County population seems to be a recent arrival since the first author, who has surveyed this area off and on from about 1980, had not previously observed it there.

Voucher: **Harris Co.:** collected on saline mud at edge of Taylor Bayou on W side of Hwy 146 just N of intersection with Port Rd, Key Map 580 W, 24 Nov 2004, *Brown 30267*.

MALVACEAE

Abutilon hulseanum (Torr. & A. Gray) Torr. ex A. Gray—A. Richardson (1995) reported this mallow from Cameron County and indicated the only United States records were in this county. Also, Turner et al. (2003) mapped it only in Cameron County. We report a collection of three duplicate specimens from Calhoun County which is far north of Cameron County.

Voucher: **Calhoun Co.:** collected on high ground on the Victoria Barge Canal Levee, 26 Mar 1992, *D. Mabie s.n.*

Pavonia hastata Cav.—Fryxell (1988) reported this mallow from Argentina, Paraguay, Uruguay, and Brazil in South America as well as Mexico and Australia. In the U.S., it has escaped in Georgia and Florida, and now Texas.

Voucher: **Harris Co.:** growing on weedy bank of S. Mayde Creek at Fry Road bridge., plant almost appearing woody, it was trailing with stem tips erect, Key Map 446a, 7 Mar 2007, *Brown 31921*.

Wissadula hernandioides (L'Her.) Garcke versus **Wissadula amplissima** (L.) R.E. Fries—Turner et al. (2003) mapped *W. hernandioides* in Cameron, Hidalgo, and Kennedy counties and they also mapped *W. periplocifolia* (L.) K. Presl ex Thwaites in south Texas. In Richardson (1995), *W. amplissima* (L.) R.E. Fries and *W. periplocifolia* are found but not *W. hernandioides*. The pertinent synonymy is provided by Fryxell (1988). The basionym of *W. amplissima* is *Sida amplissima* L., 1753, and the basionym of *W. hernandioides* is *Sida hernandioides* L'Her., 1789. However, the new combination *W. amplissima* is from 1908 and the new combination *W. hernandioides* is from 1866. The priority of the basionym should prevail and not the priority of the new combination. Thus *W. amplissima* should be the correct name which is also the name Fryxell (1988) used for this species.

ONAGRACEAE

Calylophus berlandieri Spach subsp. **berlandieri**—Our specimen station is farther east than any of those mapped in Turner et al. (2003).

Voucher: **Newton Co.:** N side of FM 363, 2.5 road mi E of Sand Ridge Cemetery Road, E of Bleakwood, 30.7288°N and 93.7197°W, 15 Apr 2005, *E. Keith 802*.

OROBANCHACEAE

Orobanche ludoviciana Nutt subsp. **multiflora** (Nutt.) Collins—Turner et al. (2003) mapped this small species no further east than Dallas County. Our Galveston County voucher is from an isolated coastal population.

Voucher: **Galveston Co.:** from coastal sand and shell on a housing tract near the Gulf vegetation line, 2 mi W of Rollover Pass on Bolivar Peninsula, 23 Apr 2003, *B. Hollingsworth s.n.*

Orobanche minor Sm.—Our voucher is the first collection of this federal noxious weed in Texas. Kartesz (1999) mapped it no closer to Texas than Florida. The species has reappeared at this location for the past three years. The following key will serve to separate the four *Orobanche* species now known present in east Texas, of which two are recent introductions.

- 1. Flowers solitary at tip of a pedicel that is much longer than the calyx _____ **O. uniflora**
- 1. Flowers in dense spikes or spike-like racemes; pedicels absent or shorter than calyx.
 - 2. Calyx lobes 5 (do not confuse the calyx lobes with the bractlets which are positioned between the bract and the calyx tube) _____ **O. ludoviciana**
 - 2. Calyx lobes 4.
 - 3. Calyx divided almost to base into 2 segments that are deeply bifid at apex, thus 4 ultimate unequal lobes _____ **O. minor**
 - 3. Calyx divided into 4 more or less equal lobes _____ **O. ramosa**

Vouchers: **Harris Co.:** downtown Houston on grassy bank on N side of Interstate 10 at the west bound entrance of Watson Street, Harris Co., Key Map 493 F, 27 March 2004, *Brown 29087*; same site, 25 Mar 2004, *J. Liggio s.n.*

PLANTAGINACEAE

Plantago rugelii Dcne.—Turner et al. (2003) mapped this weedy but native species in Clay, Dallas, Grayson, and Lamar counties. Lipscomb (1978) reported it also present in Titus County. A key to separate this species from the weedy but introduced and more common *P. major* is found in Lipscomb (loc.cit.). We report a recent collection from Harris County far south of those mapped.

Voucher: **Harris Co.:** growing in picnic area of Jesse Jones County Park to the N of Hwy 1960, west of Humble, 26 Sep 2004, *Brown 30736*

POACEAE

Paspalum wrightii A.S. Hitchc. & Chase—Allen and Hall (2003) first reported this grass for Texas based upon historic collections from Calhoun, Jackson, and Matagorda counties cited in the protologue of *P. texanum* Swallen (J. Wipff, pers. comm., 2005). Our vouchers are from rediscovered populations in Jackson and Matagorda counties and new populations in Wharton County. Zuloaga et al. (2003) pointed out that *P. texanum* is a synonym of this species and not of *P. plicatulum* Michx., as found in Gould (1975) and Kartesz (1999).

Vouchers: **Jackson Co.:** S of Hwy. 616, 5.7 mi E of Hwy. 172 in LaWard, 24 Jul 2004, *D.J. Rosen 3024* and *R.M. Combs* (BRCH, BRIT, SAT, TEX, UTEP, VDB). **Wharton Co.:** infrequent emergent perennial in hydric roadside ditch between Hwy 102 and railroad track, ca 11.3 mi S of the town of Eagle Lake, 30 Jun 2004, *D. Rosen 2996* (BRCH, BRIT, SBSC, TEX, US). **Matagorda Co.:** on and S of Hwy 2431, 8.4 km E of its intersection with Hwy 71, between the towns of Midfield and Markham, 11 Jul 2007, *D. Rosen 4320* (BRIT, MO, SBSC, TAES, TEX, US).

Rottboellia cochinchinensis (Lour.) Clayton—Wipff and Rector (1993) first reported this noxious weed new to Texas from Jefferson County. Since then plants have been collected in three other counties.

Vouchers: **Harris Co.:** Armand Bayou Nature Center S of the intersection of Bay Area Blvd and Red Bluff Road, disturbed field of the bison enclosure, apparently escaped from hay, 01 Oct 2003, *D.J. Rosen 2639*. **Matagorda Co.:** North roadside of FM 521, ca 3.6 km E of intersection with Hwy. 60 in Wadsworth., N28°50'20.5", W95°53'59.3", 02 Nov. 2006, *D.J. Rosen 3980* (BRIT, TAES, TEX, SBSC, US). **Wharton Co.:** on and E of Hwy 71 at its intersection with FM 1160, 1.9 km S of CR 474, 17 km N of the town of El Campo, 09 Jul 2007 *D. Rosen s.n.* (BRIT, TAES, TEX).

Willkommia texana A.S. Hitchc. var. **texana**—Wipff (2003) reported this grass from Texas and Oklahoma. Turner et al. (2003) mapped it in most of the coastal counties from Chambers south to Cameron. The type locality is the city of Ennis, which is probably the basis of their record for Ellis County. We report two counties not mapped by Turner et al. (2003). At SBSC, most of the collections of this species are from Harris County where the endangered *Hymenoxys texana* is often present on the same sites.

Vouchers: **Anderson Co.:** open saline prairie, ca 500 m N of hwy 84 and 400 m W of the Neches River. 21 Sep 2003, *E. Keith 601*. **Matagorda Co.:** Sargent unit of the San Bernard NW Refuge S of Sargent, plants in a corral, 10 Jul 2000, *F. Hannnah s.n.*

POLEMONIACEAE

Phlox cuspidata Scheele—The following collections are for three counties not mapped in Turner et al. (2003)

Vouchers: **Brazoria Co.:** Nash Ranch, hay meadow W of C.R. 25, ca 8.7 mi N of it intersection with Hwy 35 in West Columbia, 5 Apr 2004, *D.J. Rosen 2787* (TEX). **Newton Co.:** from N side of FM 363, 2.5 mi E of Sand Ridge Cemetery Rd, E of Bleakwood, 30.7288°N: 93.7197°W, 15 Apr 2005, *E. Keith 799*. **San Jacinto Co.:** on grassy verge of Hwy 2025, ca 1 mi N of the Liberty County border, 10 Apr 2005, *Brown 30413a*.

RANUNCULACEAE

Ranunculus trilobus Desf.—Although not listed for Texas by Correll and Johnston (1970), Turner et al. (2003) mapped this European native in Harrison County. Our record is the second for the state.

Voucher: **Brazoria Co.:** collected near a drainage swale in MacLean Park in the city of Lake Jackson, 02 Apr 2006, *Ray Jordan & W. Pruess s.n.*

RUBIACEAE

Mitracarpus hirtus (L.) DC.—Turner et al. (2003) mapped this species in Cameron County in extreme south Texas. We report two collections from the east Texas Pineywoods.

Vouchers: **Hardin Co.:** growing on road in Village Creek State Park, 28 Sep 1995, *D.A. Muschalek s.n.* **Liberty Co.:** Menard Creek Unit of the Big Thicket Biological Preserve, off of County Road 2138 at the Liberty/Hardin County border, 28 Oct 1995, *Brown 18847*.

Oldenlandia corymbosa L.—Correll & Johnston (1970) reported this introduced species, as *Hedyotis corymbosa*, to be rare in lawns in east Texas and with a question mark as to being present in the Gulf Coast. Also reported for the state by Jones et al. (1997) and as rare in east Texas (Terrell 1990). An internet search of the specimens at TEX/LL show no collections there which is probably why it was not mapped in the state by Turner et al. (2003). The following Harris County collections at SBSC verify it for the state.

Vouchers: **Harris Co.:** present at 6218 Doliver Street in Houston, 11 Oct 1987, W.L. McClure s.n.; collected in SW Houston at curbside of Cartagena and Landsdowne Streets, 2 Aug 2007, Betty Cawfield s.n.; collected along a sidewalk adjacent to the Half-Price book store on Westheimer Blvd in Houston, 10 Oct 2005, Brown 30791; collected at edge of the SBSC herbarium building at 8856 Westview Drive which is N of I-10 and E of the intersection of Westview Drive with Campbell Road, 21 Aug 2007, 28 Oct 1995, Brown 32720a.

SCROPHULARIACEAE

Penstemon digitalis Nutt.—Turner et al. (2003) mapped this taxon in many counties clustered in the extreme northeast portion of the state. However, they mapped a collection from Walker County, which is rather isolated from the northern counties. Our collection adds another county record to this isolated population and a record for Liberty Co., which is the most southern station in Texas.

Voucher: **Polk Co.:** growing along a roadside outside of Lake Livingston State Park, W of Livingston and Goodrich, 28 Apr 1995, K. Hillhouse s.n. **Liberty Co.:** sandy soil along a county road off of Hwy 146 S of the bridge over Menard Creek. This gravel road extends E to the Menard Creek Unit of the Big Thicket Biological Preserve, May 2003, Joe Liggio s.n.

VALERIANACEAE

Valerianella locusta (L.) Betcke.—We report this introduced species new to Texas and Arkansas. It differs from all other Texas and Arkansas *Valerianella* taxa by the bluish cast to the flowers and the presence of a corky mass on the back of the fertile cell. Kartesz (1999) did not map this introduced species in Arkansas or Texas. Smith (1988) saw no non-cultivated Arkansas specimens and excluded it from the state. Smith later (1994) considered it as a possible addition.

Vouchers: **Bowie Co.:** weedy plants on the verge of Hwy 8 just south of the bridge over the Red River into Arkansas, 33°33'27"N, 94°25'02"W, 25 Mar 2005, Brown 30341. **ARKANSAS. Newton Co.:** along Hwy 7 near Alum Cove, spring 2005, P. Rolling s.n.

ZYGOPHYLLACEAE

Kallstroema parviflora Norton—This species is known mostly from the western 2/3 of Texas (Turner et al. 2003). We report a collection of this caltrop from extreme east Texas.

Voucher: San Augustine Co.: collected on a Weches outcrop 1 mi E of San Augustine, 17 Jul 1998, E. Keith s.n.

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REFERENCES

- ALLEN, C.A. and D.W. HALL. 2003. *Paspalum*. In: Flora of North America, vol. 25. Oxford University Press, New York, NY.
- BROWN, L.E. and S.J. MARCUS. 1998. Notes on the flora of Texas with additions and other significant records. Sida 18:315–324.
- BROWN, L.E. and I.S. ELSIK. 2002. Notes on the flora of Texas with additions and other significant records II. Sida 20:437–444.
- BROWN, L.E., B.R. MACROBERTS, M.H. MACROBERTS, P.A. HARCUMBE, W.W. PRUESS, I.S. ELSIK, and S.D. JONES. 2006. Annotated checklist of the vascular flora of the Lance Rosier Unit of the Big Thicket National Preserve, Hardin County, Texas. Sida 22:1175–1189.

- CORRELL, D.S. and M.C. JOHNSTON. 1970. Manual of the vascular plants of Texas. Texas Research Foundation, Renner.
- CRONQUIST A. 1980. Vascular flora of the southeastern United States, vol. 1: Asteraceae. University of North Carolina, Chapel Hill.
- DIGGS, G.M., B.L. LIPSCOMB, M.D. REED, and R.J. O'KENNON. 2006. Illustrated flora of East Texas, vol. 1: Introduction, pteridophytes, gymnosperms, and monocotyledons. Sida Bot. Misc. 26.
- FRYXELL, P.A. 1988. Malvaceae of Mexico. Syst. Bot. Monogr. 25:1–522.
- GLEASON, H.A. and A. CRONQUIST. 1991. Manual of vascular plants of northeastern United States and adjacent Canada, 2nd edition. The New York Botanical Gardens, Bronx.
- GOULD, F.W. 1975. The grasses of Texas. Texas A&M Univ. Press, College Station.
- HOLMGREN, P.K., N.H. HOLMGREN, and L.C. BARNETT. 1990. Index herbariorum, 8th ed. New York Botanical Gardens, Bronx.
- JONES, S.D., J.K. WIPFF, and P.M. MONTGOMERY. 1997. Vascular plants of Texas. Univ. Texas Press, Austin.
- KARTESZ, J.T. 1999. A synonymized checklist and atlas with biological attributes for the vascular flora of the United States, Canada, and Greenland. 1st ed. In J.T. Kartesz and C.A. Meacham. Synthesis of the North American flora, Version 1.0. North Carolina Botanical Garden, Chapel Hill.
- KIGER, R.W. 2006. *Cosmos*. In: Flora of North America, vol. 21. Oxford University Press, New York, NY.
- LIPSCOMB, B. 1978. Additions to the Texas flora. Sida 7:392–394.
- MAHLER, W.F. 1983. Rediscovery of *Hymenoxys texana* and notes on two other Texas endemics. Sida 10:87–92.
- MEYER, F.G. 1997. *Hamamelis*. In: Flora of North America, vol. 3. Oxford University Press, New York, NY.
- NESOM, G. 2001. New records in *Pseudognaphalium* (Asteraceae: Gnaphalieae) for the United States. Sida 19:1185–1190.
- RICHARDSON, A. 1995. Plants of the Rio Grande Delta. University of Texas Press, Austin.
- ROLLINS, R.C. 1993. The Cruciferae of continental North America. Stanford Univ. Press, Stanford, CA.
- SIRIPUM, J.L. and E.E. SCHILLING. 2006. *Eupatorium*. In: Flora of North America, vol 21. Oxford University Press, New York, NY.
- SMITH, E.B. 1988. An atlas and annotated list of the vascular plants of Arkansas, 2nd edition. University of Arkansas Press, Fayetteville.
- SMITH, E.B. 1994. Keys to the flora of Arkansas. The University of Arkansas Press, Fayetteville.
- STROTHER, J.L. 2006. *Sphagneticola*. In: Flora of North America, vol. 21. Oxford University Press, New York, NY.
- TERRELL, E.E. 1990. Synopsis of *Oldenlandia* (Rubiaceae) in the United States. Phytologia 68:125–133.
- THOMAS, R.D and C.M. ALLEN. 1996. Atlas of the vascular flora of Louisiana, vol. II: Dicotyledons, Acanthaceae–Euphorbiaceae. Louisiana Department of Wildlife & Fisheries, Baton Rouge.
- THOMAS, R.D. and C.M. ALLEN. 1998. Atlas of the vascular flora of Louisiana, vol. III: Dicotyledons, Fabaceae–Zygophyllaceae. Louisiana Department of Wildlife & Fisheries, Baton Rouge.
- TURNER, B.L., H. NICHOLS, G. DENNY, and O. DORON. 2003. Atlas of the vascular plants of Texas, vol. 1: Dicots, vol. 2: Ferns, gymnosperms, monocots. Sida Bot. Misc. 24.
- WIPFF, J.K. 2003. *Willkommia*. In: Flora of North America, vol. 25. Oxford University Press, New York, NY.
- WIPFF, J.K. and B.S. RECTOR. 1993. *Rottboellia cochinchinensis* (Poaceae: Andropogoneae) new to Texas. Sida 15:419–424.
- WUNDERLIN, R.P. 1998. Guide to the vascular plants of Florida. University Press of Florida, Gainesville.
- ZULOAGA, F.O., O. MORRONE, G. DAVIDSE, T.S. FILGUERIAS, P.M. PETERSON, R.J. SORENG, and E.J. JUDZIEWICZ. 2003. Catalogue of New World grasses (Poaceae): III. Subfamilies Panicoideae, Aristidoideae, Arundinoideae, and Danthonioideae. Contr. U.S. Natl. Herb. 46:1–662.